

Applicant : J. Richard Aylward et al.
Serial No. : 09/313,058
Filed : May 17, 1999
Page : 3 of 12

Attorney's Docket No.: 02103-354001 / AABOSSO5

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A method for processing multi-channel audio signals comprising a plurality of channels, the method comprising:

determining a [the] degree of correlation [of] between two of the plurality of channels, the degree of correlation being related to a waveform similarity between the two of the plurality of channels;

responsive to a determining that said two of the plurality of channels are correlated, normalizing said two of the plurality of channels according to a first normalization mode; and

responsive to a determining that said two of the plurality of channels are uncorrelated, normalizing said two of the plurality of channels according to a second normalization mode.
2. (currently amended) A method for processing multi-channel audio signals [signal] in accordance with claim 1, wherein said first normalization mode is a differential mode.
3. (currently amended) A method for processing multi-channel audio signals in accordance with claim 2, further comprising determining the phase relationship of said two of the plurality of channels,
4. (currently amended) A method for processing multi-channel audio signals in accordance with claim 3, responsive to a determining that said two of the plurality of channels are substantially out of phase, said differential mode is difference signal dominant.

Applicant : J. Richard Aylward et al.
Serial No. : 09/313,058
Filed : May 17, 1999
Page : 4 of 12

Attorney's Docket No.: 02103-354001 / AABOSS05

5. (currently amended) A method for processing multi-channel audio signals in accordance with claim 3, responsive to a determining that said two of the plurality of channels are substantially in phase, said differential mode is sum signal dominant.
6. (original) A method for processing multi-channel audio signals in accordance with claim 1, wherein said second normalization mode is a common mode.
7. (currently amended) A method for processing multi-channel audio signals in accordance with claim 6, further comprising the step of determining an absolute value of a sum signal of said two of the plurality of channels and an absolute value of a difference signal of said two of the plurality of channels.
8. (original) A method for processing multi-channel audio signals in accordance with claim 7, responsive to a determining that said absolute value of said sum signal is greater than said absolute value of said difference signal, said common mode is sum signal dominant.
9. (original) A method for processing multi-channel audio signals in accordance with claim 7, responsive to a determining that said absolute value of said difference signal is greater than said absolute value of said sum signal, said common mode is difference signal dominant.
10. (currently amended) A method for processing multi-channel audio signals comprising a plurality of channels, the method comprising:

determining a [the] degree of correlation [of] between two of the plurality of channels, the degree of correlation being related to a waveform similarity between the two of the plurality of channels; and

responsive to a determining that said two of the plurality of channels are partially correlated and partially uncorrelated, processing said two of the plurality of channels

Applicant : J. Richard Aylward et al.
Serial No. : 09/313,058
Filed : May 17, 1999
Page : 5 of 12

Attorney's Docket No.: 02103-354001 / AABOSSO5

according to a combination of a first normalization mode and a second normalization mode.

11. (currently amended) A method for processing multi-channel audio signals [signal] in accordance with claim 10 [1], wherein said first normalization mode is a differential mode.
12. (currently amended) A method for processing multi-channel audio signals in accordance with claim 10 [1], wherein said second normalization mode is a common mode.
13. (currently amended) A method for processing multi-channel audio signals in accordance with claim 10, wherein said combination is a linearly weighted combination of said first normalization mode and said second normalization mode.
14. (currently amended) A method for processing multi-channel audio signals in accordance with claim 13, wherein said first normalization mode is a differential mode and said second normalization mode is a common mode.
15. (currently amended) A method for decoding an encoded multi-channel audio signal comprising a plurality of channels, the method comprising:

determining a [the] degree of correlation [of] between a first channel and a second channel in the plurality of channels, the degree of correlation being related to a waveform similarity between the first channel and the second channel; and

processing said first channel according to a first normalization mode and said second channel according to a second normalization mode to produce a third channel and a fourth channel.
16. (currently amended) A method for decoding an encoded multi-channel audio signal in accordance with claim 15, wherein responsive to a determining that said first channel and

Applicant : J. Richard Aylward et al.
Serial No. : 09/313,058
Filed : May 17, 1999
Page : 6 of 12

Attorney's Docket No.: 02103-354001 / AABOSSO5

said second channel are substantially uncorrelated, said third channel and said fourth channel are substantially uncorrelated.

17. (currently amended) A method for decoding an encoded multi-channel audio signal in accordance with claim 15, wherein responsive to a determining that said first channel and said second channel are substantially correlated, said third channel and said fourth channel are substantially correlated.
18. (original) A method for decoding an encoded multi-channel audio signal in accordance with claim 15, further comprising determining an absolute value of a sum of said first channel and said second channel.
19. (original) A method for decoding an encoded multi-channel audio signal in accordance with claim 18, wherein, responsive to said absolute value of said sum signal being greater than said absolute value of said difference signal, said third channel and said fourth channel are substantially correlated.
20. (currently amended) A method for decoding an encoded multi-channel audio signal in accordance with claim 18, wherein, responsive to said absolute value of said difference signal being greater than said absolute value of said sum [difference] signal, said third channel and said fourth channel are substantially uncorrelated.
21. (currently amended) An apparatus for processing multi-channel audio signals comprising a plurality of channels, comprising:

an input characteristics determiner for determining a degree of correlation [of] between two of the plurality of channels, the degree of correlation being related to a waveform similarity between the two of the plurality of channels;

Applicant : J. Richard Aylward et al.
Serial No. : 09/313,058
Filed : May 17, 1999
Page : 7 of 12

Attorney's Docket No.: 02103-354001 / AABOSSO5

a first normalizing multiplier, coupled to said input characteristics determiner, for applying a first normalizing coefficient to a first of said two of the plurality of channels, said first normalizing coefficient being responsive to said degree of correlation; and

a second normalizing multiplier, coupled to said input characteristics determiner, for applying a second normalizing coefficient to a second [signal] of said two of the plurality of channels, said second normalizing coefficient being responsive to said degree of correlation.